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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:  
Application No.: 10/824,404  
Filed: April 15, 2004  
For: ADJUSTABLE-LENGTH GAS SPRING

Conf. No. 7685

An Unit: 3683  
Examiner: melody M. BURCH  
Washington, D.C.  
Atty.'s Docket: KNAPP-3  
Date: November 18, 2005

Customer Service Window  
Randolph Building, Mail Stop Amendment  
401 Dulany Street  
Alexandria, VA 22314

Sir:

Transmitted herewith is a [ ] Amendment ☒ REPLY: AMENDMENT AND REMARKS in the above-identified application.

- [ ] Small Entity Status: Applicant(s) claim small entity status. See 37 C.F.R. §1-27.  
☒ No additional fee is required.  
[ ] The fee has been calculated as shown below:

	(Col. 1) CLAIMS REMAINING AFTER AMENDMENT		(Col. 2) HIGHEST NO. PREVIOUSLY PAID FOR	(Col. 3) PRESENT EXTRA EQUALS
TOTAL	28	MINUS	28	
INDEP.	3	MINUS	3	0
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM				

SMALL ENTITY	
RATE	ADDITIONAL FEE
x 25	\$
x 100	\$
+ 180	\$
ADDITIONAL FEE TOTAL \$	

OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE
x 50	\$
x 200	\$
+ 300	\$
TOTAL \$	

- \* If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.
- \*\* If the "Highest Number Previously Paid for" IN THIS SPACE is less than 20, write "20" in this space.
- \*\*\* If the "Highest Number Previously Paid for" IN THIS SPACE is less than 3, write "3" in this space.

The "Highest Number Previously Paid For" (total or independent) is the highest number found from the equivalent box in Col. 1 of a prior amendment of the number of claims originally filed.

☒ Conditional Petition for Extension of Time

If any extension of time for a response is required, applicant requests that this be considered a petition therefor.

- [ ] It is hereby petitioned for an extension of time in accordance with 37 CFR 1.138(e). The appropriate fee required by 37 CFR 1.17 is calculated as shown below:

Small Entity  
Response Filed Within  
[ ] First - \$ 60.00  
[ ] Second - \$ 225.00  
[ ] Third - \$ 510.00  
[ ] Fourth - \$ 765.00  
Month After Time Period Set

Other Than Small Entity  
Response Filed Within  
[ ] First - \$ 120.00  
[ ] Second - \$ 450.00  
[ ] Third - \$ 1020.00  
[ ] Fourth - \$ 1590.00  
Month After Time Period Set

- [ ] Less fees (\$ ) already paid for month(s) extension of time on

- [ ] Please charge my Deposit Account No. 02-4035 in the amount of \$  
[ ] Credit Card Payment Form, PTO-2038, is attached, authorizing payment in the amount of \$  
[ ] A check in the amount of \$ is attached (check no. ).

- ☒ The Commissioner is hereby authorized and requested to charge any additional fees which may be required in connection with this application or credit any overpayment to Deposit Account No. 02-4035. This authorization and request is not limited to payment of all fees associated with this communication, including any Extension of Time fee, not covered by check or specific authorization, but is also intended to include all fees for the presentation of extra claims under 37 CFR §1.16 and all patent processing fees under 37 CFR §1.17 throughout the prosecution of the case. This blanket authorization does not include patent issue fees under 37 CFR §1.18.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: KNAPP=3

In re Application of:	)	Art Unit: 3683
	)	
Rainer KNAPP	)	Examiner: M. M. BURCH
	)	
Appln. No.: 10/824,404	)	Washington, D.C.
	)	
Date Filed: April 15, 2005	)	Confirmation No.: 7685
	)	
For: ADJUSTABLE-LENGTH GAS SPRING	)	November 18, 2005

RESPONSE

Customer Service Window  
Randolph Building, Mail Stop Amendment  
401 Dulany Street  
Alexandria, VA 22314

Sir:

The Official Action of August 25, 2005, and the prior art cited and relied upon therein have been carefully studied. The claims in the application remain claims 1-29, and these claims define patentable subject matter warranting their allowance. Favorable reconsideration and such allowance are respectfully urged.

Claims 1-29 remain in the application for consideration.

Mölders discloses a main gas spring unit for a **bed construction** which includes a further gas spring device axially connected end-to-end to the main gas spring unit. The main gas spring unit is adjustable in length and comprises a

pressure fluid filled casing 12, a guide and seal unit 16, 18 and a piston rod 22 with a piston 24 dividing the casing 12 into a first sectional casing chamber 26 and a second sectional casing chamber 28. For adjusting the length of the main gas spring unit a valve 36 with a valve pin is accommodated in the piston 24.

As the Examiner acknowledges, the main gas spring unit disclosed in Mölders does not contain a spring element which springly counteracts any extension of the piston rod in order to avoid a rigid stop and to provide an additional lift of stroke. The element shown in Fig. 1 radially outside of the end of the lead line of 38 is a kind of retaining ring for a spacer sleeve fixing the guide and seal unit 16, 18 in the casing. The retaining ring disclosed in Mölders neither springly counteracts any extension of the piston rod nor provides an additional lift of stroke.

The Examiner maintains that Raleigh teaches the spring element absent in Mölders. Applicant does not agree. Raleigh discloses a buffer mechanism 34 accommodated in a receiver 16 of a **machine gun**. The buffer mechanism 34 comprises a piston 40 and a stack of cup-shaped discs 43 within a housing 36. The discs 43 are disposed between the piston 40 and the housing 36 for resiliently stopping the displacement of the piston 40 due to the recoil travel of the

barrel 14. The piston 40 is connected with a hook 44 which is disposed outside the housing 36 and which cooperates with the barrel 14 during its recoil travel.

There is no teaching or showing in either Mölders or Raleigh for combining the buffer mechanism of a machine gun with an adjustable length gas spring. Considering the object of the claimed invention, namely to avoid that the piston rod extend any further than a defined, pre-determined rigid stop, a person skilled in the field of gas springs would not have taken into account the teaching of Raleigh concerning machine guns. Although, Raleigh discloses a piston rod with a piston and spring elements disposed between the piston and the end of a housing, the construction and the functionality of the buffer mechanism disclosed in Raleigh is completely different to the construction and the functionality of the gas spring disclosed in Mölders, which additionally contains a complex valve unit 36 and passages for the pressure fluid.

Even if a person skilled in the art had combined the buffer mechanism disclosed in Raleigh with the gas spring disclosed in Mölders - for which there was NO reason to do so - he would not have arrived at the claimed invention. Raleigh teaches use of a buffer mechanism in order to resiliently stop the longitudinal displacement of the barrel. Starting from this teaching a person skilled in the art would have to

integrate the whole buffer mechanism into the gas spring disclosed in Mölders in order to resiliently stop the longitudinal displacement of the piston rod of the gas spring. Integrating the whole buffer mechanism into the gas spring is obvious only because the buffer mechanism is very small and compact due to its use in machine guns. However, by integrating the whole buffer mechanism into the Mölders gas spring, the resulting structure would be substantially different from that of the claimed invention.

Claim 19 contains the additional feature of at least one spring element being constructed such that when the valve is in an open position with no external force acting between the fastening elements, it is slightly compressed and with the valve being in an open position and with a tensile force acting between the fastening elements it can be additionally compressed in the direction of extension. This additional feature points out the construction of the spring element and its cooperation with the valve. On the one hand the claimed spring element ensures avoiding a rigid stop of the piston rod and on the other hand the claimed spring element additionally provides an additional lift of stroke being useful in some applications.

Appln. No. 10/824,404  
Amdt. dated November 18, 2005  
Reply to Office Action of August 25, 2005

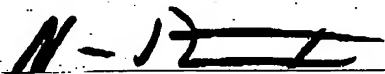
Applicant respectfully submits that independent claims 1, 12 and 19 patentably define over Mölders in view of Mölders further in view of Raleigh, and accordingly claims 1-29 are allowable.

The prior art documents made of record and not relied upon have been noted along with the implication that such documents are deemed by the PTO to be insufficiently pertinent to warrant their applications against any of applicant's claims.

Favorable reconsideration and allowance are earnestly solicited.

Respectfully submitted,

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